

ACCESSION NR: AT4036060

S/2781/63/000/003/0206/0211

AUTHORS: Aseyev, G. G.; Voytsenya, V. S.; Konovalov, V. G.

TITLE: Experiments on the compression of a plasma by a rapidly growing magnetic field

SOURCE: Konferentsiya po fizike plazmy* i problemam upravlyayemogo termoyadernogo sinteza. 3d, Kharkov, 1962. Fizika plazmy* i prob-
lemy* upravlyayemogo termoyadernogo sinteza (Plasma physics and
problems of controlled thermonuclear synthesis); doklady* konfer-
entsii, no. 3. Kiev, Izd-vo AN UkrSSR, 1963, 206-211

TOPIC TAGS: plasma compression, plasma magnetic field interaction,
plasma pinch, discharge plasma, plasma decay, plasma instability

ABSTRACT: Experiments were set up to ascertain the causes of the
slow displacement of a compressed plasma pinch from the system axis
towards the wall of the discharge tube and towards the gap in the

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ASSOCIATION: None

Card 2/42

KONOVALOV, V.G.

Life of the glacier and its ablation. Izv. Vses. geog. ob-va
96 no.3:234-239 '64 (MIRA 17:8)

KONOVALOV, V.G.

Heat exchange with air on a glacier and ablation. Vest. LGU 20
no.6:115-123 '65. (MIRA 18:4)

KONOVALOV, V.G.

Heat and moisture exchange on a glacier. Izv. Vses. geog. ob-va
97 no.1:55-62 Ja-F '65. (MIRA 18:3)

L 24054-66 EWT(1)/EWP(m)/EWT(m)/EWA(d)/EWA(h) JD/KW/GS/AT/GW

ACC NR: AT6008856

SOURCE CODE: UR/0000/65/000/000/0161/0165

AUTHOR: Aseyev, G. G.; Konovalov, V. G.

81
B+1

CRG: none

TITLE: Antecedent photoionization of helium in a gas discharge shock tube

27

SOURCE: AN UkrSSR. Magnitnyye lovushki (Magnetic traps). Kiev, Naukova dumka, 1965, 161-165

TOPIC TAGS: UV radiation, photoionization, gas discharge plasma, shock tube, helium

ABSTRACT: An electrostatic probe, microwave techniques and photomultiplier techniques are used for experimentally showing that preliminary ionization of helium of the order of 10^{-1} observed in a shock tube at initial pressures of $(3-6) \cdot 10^{-1}$ mm Hg is due to photoionization by ultraviolet radiation from the discharge ($\lambda < 1100$ angstrom). One of the direct proofs of this hypothesis is the presence of helium ions before arrival of the shock wave and the plasma discharge at a given point of the shock tube. The experimental method and equipment are described in detail. Analysis of the experimental data shows that a plasma with a density of 10^{13} cm^{-3} is generated 30 cm from the coil. This plasma is generated before arrival of the discharge plasma simultaneously throughout the length of the tube. If the diaphragm of the probe is closed with a sheet of lithium fluoride, the antecedent signal disappears completely. The experi-

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I 24054-66

ACC NR: AT6008856

0

mental results show that the observed antecedent ionization of helium is due to photo-ionization by the hard ultraviolet discharge. Orig. art. has: 4 figures.

SUB CODE: 20/

SUBM DATE: 20Oct65/

ORIG REF: 004/

OTH REF: 005

Card 2/2 *dda*

L 43798-66 EWT(1)/EWP(m) WW/GD

ACC NR: AT6020416

(N)

SOURCE CODE: UR/0000/65/000/000/0181/0187

AUTHOR: Aseyev, G. G.; Konovalov, V. G.

22

ORG: none

B+1

TITLE: Some effects observed during the collision of shock waves and plasmoids in a shock tube with induction discharge

SOURCE: AN UkrSSR. Issledovaniye plazmennyykh agustkov (Study of plasma clusters). Kiev, Naukovo dumka, 1965, 181-187

TOPIC TAGS: plasmoid, plasma shock wave, plasma velocity, shock wave interaction, SHOCK TUBE

ABSTRACT: Properties of strong colliding shock waves generated in quartz tubes by an electrodeless discharge were studied. The discharges formed shocks in argon and xenon gases. At higher Mach numbers, the shock front was quite plain and practically coincided with the plasma formed during the discharge due to short relaxation times. The shock wave velocity was found to decrease with initial pressure increase while the plasma velocity was found to have a maximum. This shows that some of the gas is ejected from the shock-forming region while further current flow produces the plasma behind the shock. Another set of experiments showed that the plasma was carrying currents that induced compressing fields which strongly affect the after-shock plasma and its behavior during the collision. This phenomenon should be considered in studies of

Card 1/2

L 43798-66

ACC NR: APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000824330003

strong shock wave propagation where other effects such as precursor formation are also important. Orig. art. has: 6 figures.

SUB CODE: 20/

SUBM DATE: 11Nov65/

ORIG REF: 005/

OTH REF: 006

Card 2/2 *pls*

KONOVALOV, V.I.

Sand fire extinguishers. Politekh. obuch. no.8:90 Ag '59.
(MIRA 12:10)

1. Srednyaya shkola No.33, g.Dnepropetrovsk.
(Fire extinction)

ANDREYEV, A.V., KONOVALOV, V.I.

Investigating strain in chain links of a scraper conveyer and
cutting machine. Nauch. trudy MGU no. 20:61-74 '58. (MIRA 11:8)

(Mining machinery--Testing)

(Conveying machinery--Testing)

(Strains and stresses)

KONOVALOV, V.I., Cand Tech Sci -- (diss) "Study of the durability of chains used on cutting machines, combines, and scraper conveyers." Mos, 1959, 19 pp with graphs (Acad Sci USSR. Inst of Mining ~~Acad Sci~~) 170 copies (KL, 35-59, 114)

- 36 -

SHKLYAR, R.Sh.; POPOV, A.A.; KONOVALOV, Y.I.

Thermokinetic diagram of the decomposition of supercooled austenite
in some high-carbon steels. Trudy Ural. politekh. inst. no.68:23-33
'58. (MIRA 12:7)

(Steel alloys--Metallography) (Austenite)

KONOVALOV, V. I., Cand. Tech. Sci. (diss) "Investigation of Inclined Vibration Extractor," Leningrad, 1961, 14 pp. (Leningrad Tech. Inst. Dept. of Processes and Apparatus for Chem. Technol.) 180 copies (KL Supp 12-61, 268).

KONOVALOV, V.I.; SHTROBEL', V.O.; ROMANKOV, P.G.

Criterial equations of choking for countercurrent extraction columns. Zhur.prikl.khim. 34 no.9:1966-1971 S '61. (MIRA 14:9)

1. Kafedra protsessov i apparatov Leningradskogo tekhnologicheskogo instituta imeni Lensoвета.
(Extraction apparatus)

KONOVALOV, V.I.; ROMANKOV, P.G.

Mass transfer and hydrodynamics in an inclined countercurrent vibrating extractor. Zhur.prikl.khim. 34 no.10:2217-2226 0 '61.
(MIRA 14:11)

1. Kafedra protsessov i apparatov Leningradskogo tekhnologicheskogo instituta imeni Lensova
(Extraction apparatus)

KONOVILOV, V. I., Engineer Cand Tech Sci

Dissertation: "Investigation into the Problems
of the Theory and Design of Jet Apparatus with
Steam Condensation."

Moscow Order of Lenin Power Engineering Institute
V. M. Molotov.

26/5/50

SO Vecheryaya Moskva
Sum 71

KONOVALOV, V.I., kandidat tekhnicheskikh nauk; USHAKOV, G.A., inzhener;
SHAPOSHNIKOV, B.I., kandidat tekhnicheskikh nauk; UZHOV, V.N.,
inzhener.

"Thermal electric power plants of industrial enterprises." V.V.Luk-
nitskii. Reviewed by V.I.Konovalev, G.A.Ushakov, B.I.Shaposhnikov,
V.N.Ushov. Elek.sta. 25 no.7:61-64 J1 '54. (MIRA 7:8)
(Electric power plants) (Luknitskii, V.V.)

SOV/112-59-1-228

8 (6)

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 1,
pp 29-30 (USSR)

AUTHOR: Konovalov, V. I.

TITLE: On the Problem of Heat Transfer From Condensing Steam to a Turbulent-
Water Jet

PERIODICAL: Izv. vyssh. uchebn. zavedeniy. Energetika. 1958, Nr 1, pp 97-100

ABSTRACT: Observations on a glass model of a jet-type heater revealed that the water jet in a steam-filled space is not disturbed along its entire length, from the water nozzle to the receiving confuser. Immediately at the nozzle, an intense steam condensation takes place on the jet surface, and the steam pressure abruptly drops. Under the influence of pressure difference, the steam rushes to the jet surface, steam expansion and discharge being similar to those in a narrowing nozzle. The steam pressure and temperature at the jet surface are critical over an initial jet section; from a certain critical

Card 1/2

Ivanov Power Eng. Inst im V. I. Lenin

SOV/112-59-1-228

On the Problem of Heat Transfer From Condensing Steam to a Turbulent-Water Jet
cross-section onward, the pressure and temperature increase remain always
lower than those of the heating-up steam. A theoretical case of determining
the law connecting the pressure, specific volume, and velocity of saturated
heating-up steam in a steam chamber is cited.

V. Ye. D.

Card 2/2

SHTROBEL', V.; ROMANKOV, P.G.; KONOVALOV, V.I.; LYUTAYA, N.S.

Study of hydrodynamics without mass transfer and in the presence
of mass transfer in a rotor-disk extractor. Zhur. prikl. khim.
36 no.12:2672-2680 D'63. (MIRA 17:2)

1. Leningradskiy tekhnologicheskij institut imeni Lensovetu.

SHTROBEL', V.; ROMANKOV, P.G.; KONOVALOV, V.I.; LYUTAYA, N.S.

Study of mass transfer in a rotor-disk extractor. Zhur.prikl.khim.
37 no.1:50-58 Ja '64. (MIRA 17:2)

1. Leningradskiy tekhnologicheskii institut imeni Lensoвета.

MIROSHNICHENKO, Yu.P.; KONOVALOV, V.I.; BERENTS, Yu.Ya.

Field investigation of the cooling of a well bore and measures
for preventing corrosion of underground equipment, Neft. khoz.
42 no.7:42-45 J1 '64. (MIRA 17:8)

L 58398-65 EWT(m)/EWA(d)/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c) pf-4 MSW/JD/HW
ACCESSION NR: AR5013016 UR/0137/65/000/004/I029/I030
539.379.4:669.14.018.2 3/
29
3

SOURCE: Ref. zh. Metallurgiya, Abs. 41186

AUTHOR: Alferova, N. S.; Rizol', A. I.; Konovalov, V. I.; Alpatov, Ye. N.

TITLE: Structural basis for reduced ductility in X25T ferritic steel during cold work

CITED SOURCE: Sb. Proiz-vo trub. Vyp. 13. M., Metallurgiya, 1964, 107-112

TOPIC TAGS: ferritic steel, cold deformation, metal mechanical property

TRANSLATION: The electron microscope was used to study part of the surface of a specimen of X25T steel, which had suffered maximum deformation in mechanico-thermic processing. To observe the structural changes, Ti- and carbon replicas were used. Slip bands appear in the form of wide strips and thin transverse lines, and they also have a helicoidal form. Electron-microscopic study of the surface after etching by oxalic acid shows a large number of separate spots near the slip bands. When the etching time is increased, the slip bands disappear and the structure of the

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L 59398-65

ACCESSION NR: AR5013016

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steel becomes granular, the borders of the grains being composed of separate points. It is suggested that the points observed on the surface of the specimens result from the formation of dislocations with their surrounding Cottrell atmospheres. The accumulation of a large number of impurities near dislocations in the slip plane during the deformation of the X25T ferritic steel hinders the movement of the dislocations and, in certain cases where external loads are applied, can cause fine cracks. I. Tulupova

SUB CODE: MM

ENCL: 00

Stainless Steel 16

Card 2/2 *ENP*

KARABANOV, Yu.F., kand. tekhn. nauk; KONOVALOV, V.I., kand. tekhn. nauk;
KULAKOVA, M.I., kand. tekhn. nauk; SEMEIN, V.M., kand. tekhn. nauk

Review of the book "Collection of problems in engineering thermodynamics". Edited by [prof.] M.P. Vukalovich. Reviewed by Yu. F. Karabanov, V.I. Konovalov, M.I. Kulakova, V.M. Semein. Izv. vys. ucheb. zav.; energ 7 no.9:114-115 S '64.

(MIRA 17:11)

1. Ivanovskiy energeticheskiy institut imeni V.I. Lenina.

ACC NR: AF7005839

SOURCE CODE: UR/0181/66/003/012/3541/3549

AUTHOR: Konovalov, V. I.; Ryabchenko, S. M.

ORG: Institute of Physics, AN UkrSSR, Kiev (Institut fiziki AN UkrSSR)

TITLE: Some questions in the broadening of EPR lines in weak fields

SOURCE: Fizika tverdogo tela, v. 8, no. 12, 1966, 3541-3549

TOPIC TAGS: epr spectrum, spectral line, line broadening, wave function, spin system, dipole interaction

ABSTRACT: To determine the conditions for correct application of the theory to the reduction of the experimental data, the authors calculate, in the high-temperature approximation, the zeroth and second moments of the satellites of the EPR absorption curve at constant frequency ν_0 , with inclusion of first-approximation corrections to the wave functions and to the energy levels of the spin system, in the presence of dipole-dipole and exchange interaction. The second moment of the envelope curve, which takes into account all the transitions in the first approximation, is also calculated. The additional contribution to the transition at the fundamental frequency, from the nonsecular part of the perturbation, is determined. The results are not applicable in the entire region of weak fields, but only in the so-called intermediate fields, where perturbation theory is still valid. The ratio of the second moment of the envelope curve to the second moment of the fundamental line for a polycrystalline sample was found to be $4/3$ at constant fundamental frequency. The first moment of

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ACC NR: AF7005839

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000824330003-8"

the envelope curve, due to the contribution of the satellite, is also determined. The region of applicability of the results is estimated. The authors thank L. A. Shul'man for advice and consultation, and M. F. Deygen for a detailed discussion of the work. Orig. art. has: 4 figures and 19 formulas.

SUB CODE: 20/ SUBM DATE: 03May66/ ORIG REF: 001/ OTH REF: 007

Card 2/2

BOBYRENKO, Yu.Ya.; DOLMATOV, Yu.D.; Prinimali uchastiye: ZAV'YALO'VA, V.I.;
MOISENKOVA, V.D.; KONOVALOV, V.K.

Rapid method of determining the dispersion composition of titanium
dioxide pigments. Lakokras.mat.i ikh prim. no.6:52-53 '62.

(MIRA 16:1)

1. Chelyabinskiy filial Gosudarstvennogo nauchno-issledovatel'skogo
i proyektного instituta lakokrasochnoy promyshlennosti.
(Pigments--Testing) (Titanium oxides)

5(2)

AUTHORS:

Krupkin, A.I., Kononov, V.L.

SOV/32-24-12-10/45

TITLE:

Concerning the Maintenance of the Temperature Conditions in the
Colorimetric Determination of Potassium in the Form of $K_2Pb[Ni(NO_2)_6]$
(O soblyudenii temperaturnykh usloviy pri kolorimetricheskom opredelenii kaliya v vide $K_2Pb[Ni(NO_2)_6]$)

PERIODICAL:

Zavodskaya Laboratoriya, 1958, Vol 24, Nr 12, pp 1444-1444 (USSR)

ABSTRACT:

It was suggested (Ref 1) that potassium be separated in the form of $K_2Pb[Ni(NO_2)_6]$. The nickel in this compound could then be determined colorimetrically (Ref 2), and from the nickel content the potassium content could be calculated. In repeated applications of this method it was noticed that a variation in temperature can introduce larger errors into the analytical results. An investigation by the authors with regard to this observation showed that the influence of the temperature is greatest during the precipitation (calibration curves over a temperature range made on the FEK-M apparatus, Fig 1). The influence of temperature was evaluated over the interval from 10 to 50°C by measuring the variation in the optical density of the nickel dimethyl glyoxime solution and plotting the measurements obtained graphically (Fig 2). From the experimental results obtained an

Card 1/2

KONOVALOV, V.L.; BOBRIK, V.M.

Equipment for the automatic sedimentation analysis of various pulps
and suspensions; an automatic sedimentation meter. TSvet.met. 38
no.3:22-24 Mr '65. (MIRA 18:6)

KONOVALOV, Vladimir Mironovich; LOTYSHEV, I.P., red.; KOFANOV, P.F.,
tekhn.red.

[Green treasures] Zelenye sokrovishcha. Krasnodarskoe knizhnoe
izd-vo, 1954. 110 p. (MIRA 12:3)
(Forests and forestry) (Tropical plants)

KONOVALOV, V. M.

USSR/Medicine - Health resorts

Card 1/1 Pub. 86 - 19/37

Authors : Konovalov, V. M.

Title : Truskavets (name of a health resort)

Periodical : Priroda 44/4, 103 - 105, Apr 1955

Abstract : A description is presented of the health resort at Truskavets near Lvov formerly frequented only by wealthy people, but now made into a resort for the people, twenty thousand of whom come to it every year to be treated for liver, kidney, stomach and other complaints. Illustrations.

Institution :

Submitted :

S/121/61/000/006/002/012
DO40/D112

AUTHORS: Zaychenko, I.Z., Konovalev, V.M., Myshlevskiy, L.M., and Stepanenko, G.M.

TITLE: New long-life vane pumps

PERIODICAL: Stanki i instrument, no. 6, 1961, 6-10

TEXT: New vane pumps for the hydraulic drives of machine tools have been developed by ENIMS in cooperation with the Yeletskiy zavod stanochnoy gidroapparatury (Yelets Machine Tool Hydraulic Equipment Plant). The new "Г" (G) series pumps will replace the old "Л" (L) pumps, i.e. Л1Ф (L1F), Л3Ф (L3F), and Л5К (L5K), that have high hydraulic losses. The article gives detailed design description of the Г12-2 (G12-2) and Г12-4 (G12-4) and dimension charts of other pumps of the series. The major share of leakage in the old design is through the passage q₃ (Fig. 2), i.e. from the groove under vanes into the intake space through the butt-end gap between the rotor and the discs. This explains why wear on the butt faces of the distributing discs raises oil loss so much. In the new design (Fig. 3) the distribution discs (8) and (7) are made of case-hardened 20X (20Kh) steel with Rc 56-52 hardness, and the disc (8) is floating, i.e. it is pressed to the stator (3) ✓

Card 1/6

New long-life vane pumps

S/121/61/000/006/002/012
D040/D112

by springs (9) at the start of operation, and by oil pressure during operation. In Fig. 3, 1 is the pump casing, 2 the cover and 5 the rotor. This makes the assembling simpler and eliminates the danger of jamming. The output and intake ducts are open, the rotor has no trunnion. The G12-4 has eight vanes (4) and the G12-2 twelve. The rubber sealings (10) and (6) are standard. The stator profile and dimensions were chosen in accordance with recommendations by I.Z. Zaychenko (Ref. 2: "Stanki i instrument", no. 8, 1956). When coupled, the G12-2 and G12-4 pumps (Fig. 4) have one intake and two separate outlets. Calculation of the pressure on the floating disc is given. The G12-2 pumps of 5-50 liter/min capacity can work at up to 1440 shaft rpm. The life-time of the new pumps is 4-5 times longer than that of the old they are replacing. Pressure on the floating distributing disc (pressing it to the stator) must have a certain value (α) that is obtained when the floating disc surface area under the effect of intake oil pressure (F_{in}) exceeds F_0 1.19 times, i.e. the following condition must be satisfied:

$$\alpha = \frac{F_{in}}{F_0} > 1.19. \quad (5)$$

Card 2/6

New long-life vane pumps

S/121/61/000/006/002/012
D040/D112

The maximum work pressure of the G12-4 type pumps is 50 kgf/cm , and of the G12-2 - 64 kgf/cm . The G12-4 is smaller than the G12-2. Both are designed for application in new standard-unit power heads developed by the SKB-1 for Stankozavod im. S. Ordzhonikidze (Machine Tool Plant im. S. Ordzhonikidze) as well as other hydraulic drives where minimum size and weight are important. There are 12 figures, 3 tables and 2 Soviet references.

Card 3/6

SHUBIN, V.A. (Buy); KONOVALOV, V.M. (Karasuk); PRACHKO, P.Ye. (Simferopol')

More rights for railroad divisions. Zhel.dor.transp. 45no.7:60-64
Jl '63. (MIRA 16:9)

1. Nachal'nik finansovogo otдела Buyskogo otdeleniya Severnoy dorogi
(for Shubin). 2. Nachal'nik planovo-tekhniko-ekonomicheskogo otдела
Karasukskogo otdeleniya Zapadno-Sibirskoy dorogi (for Konovalov). 3.
Nachal'nik planovo-tekhniko-ekonomicheskogo otдела Krymskogo otdeleni-
ya Pridneprovskoy dorogi (for Prachko).
(Railroads--Management)

KONOVALOV, V. M.

PH
EL The electroconductivity of bismuth oxide. V. M. Konovalov, V. I. Kulakov, and A. K. Fidyra. *Zhur. Tekh. Fiz.* 23, 1864-7 (1955). The electrocond. of Bi_2O_3 was measured between 300 and 700°. The Bi_2O_3 used was the orthorhombic modification only. For measurements *in vacuo* the following equation was found: $\log \rho + 1.9078 = 4923/T$, where ρ is the specific cond., and T the abs. temp. This relation is not true for measurements in air, where for larger values of $1/T$ the curve bends towards the $1/T$ axis. The measurements were repeated in the interval between 125 and 250°, and some of the samples were measured as before, others were kept for 10-12 hrs.

In an atm. of CO . These samples showed a cond. of up to 10 times the untreated samples. Werner Jacobsen

Sned
4/4

KONOVALOV, V.M.; KORDUN, G.G.

M.F. Okatov's thermodynamic research. Trudy Inst. ist. est. i tekhn.
22:160-172 '59. (MIRA 12:10)

(Okatov, Mikhail Fedorovich, 1829-1901)
(Thermodynamics)

S/058/61/000/009/003/050
A001/A101

AUTHORS: Konovalov, V.M., Dubchak, V.A.

TITLE: On development of quantum statistics

PERIODICAL: Referativnyy zhurnal, Fizika, no. 9, 1961, 19, abstract 9A217 (V sb. "Vopr. istorii yestestvozn. i tekhn.", no. 10, Moscow, AN SSSR, 1960, 35 - 41).

TEXT: The authors describe the history of development of quantum statistics from Planck's works on thermal radiation to the works by N.N. Bogolyubov on statistical theory of imperfect gases. They emphasize the close connection between the developments of quantum statistics and quantum mechanics and their mutual influence on each other. It is stated that quantum statistics passed in its historical development three consecutive phases: 1) period of preparing its fundamentals (1900-1923); 2) period of establishing both of its quantum-statistical distributions on the basis of the geometrical method of phase cells of Bose (1924-1926); 3) period of quantum-mechanical substantiation of the new statistics, its applications and further development (beginning from the second half of 1926).

[Abstracter's note: Complete translation]
Card 1/1

E. Nagayev ✓

KONOVALOV, V.M.; DUSCHAK, V.A.

Studies on the history of the physics of semiconductors. Trudy Inst.
ist. est. 1 teky. 34:73-102 '60. (MIRA 14:2)
(Semiconductors)

KONOVALOV, V.M.; KORDUN, G.G. [Kordun, H.H.]

History of the development of thermodynamics. *Nar. i tekhn.*
no. 7:27-43 '61. (MIRA 15:2)

(Thermodynamics)

KONVALOV, V.M.; SHABALIN, K.N.

Theory of the rubber coating protection of metals from cavitation
erosion. Zashch. met. 1 no.5:494-499 S-0 '65. (MIRA 18:9)

1. Ural'skiy politekhnicheskii institut imeni S.M.Kirova.

(N) L 8911-66 EWT(m)/EMP(w)/EWA(d)/ENP(l)/T/EMP(t)/EMP(z)/EMP(h)

ACC NR: AF5027593 MJW/JD/DJ/RM SOURCE CODE: UR/0145/65/000/009/0086/0089

AUTHOR: Konovalov, V. M. (Aspirant); Shabalin, K. N. (Doctor of Technical Sciences) ⁷¹₇₀ ^{44.55} ^B

ORG: Ural Polytechnic Institute (Ural'skiy politekhnicheskiy institut) ^{44.55}

TITLE: Protection of metals from cavitation wear by resin coatings ¹¹₁₆

SOURCE: IVUZ. Mashinostroyeniye, no. 9, 1965, 86-89

TOPIC TAGS: cavitation, metal, protective coating, resin/ resin 3311-b ^{44.55} ⁴

ABSTRACT: The experiments were carried out on a magnetostrictive test unit. The vibrating part of the unit was a nickel tube 310 mm long with a diameter of 18 mm. The sample was screwed into the bottom of the tube, whose working section was filled with tap water at a temperature of 16-20°C. The vibration frequency of the tube, determined by its dimensions and the weight of the test samples, was 8000 cycles. The amplitude of the vibrations was 0.035 mm. Tests were made on samples of St3 steel with an area of 2.5 cm² coated with resin and were compared with tests on the same samples without coating. The tests were made on soft resin 3311-b with a Jones hardness of 4.3 - 4.5, and a semihard resin of special composition, called "Sm-2", with a Jones hardness of 6.0. This last resin differs from the standard composition

Card 1/2

UDC: 539.375 ²

KON'KOV, A.S.; KONOVALOV, V.N., kandidat tekhnicheskikh nauk, redaktor;
DUGINA, N.A., ~~tekhnicheskii~~ redaktor

[Setting up norms for the expenditure of materials in machine construction] Normirovanie raskhoda materialov v mashinostroenii. Izd. 2-e, ispr. 1 dop. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroitel'noi lit-ry, 1954. 319 p. (MLRA 8:6)
(Machinery industry)

KONOVALOV, V.N.

PHASE I BOOK EXPLOITATION

SOV/4236

Voronkov, Ivan Ivanovich, and Viktor Nikolayevich Konovalev

Upravleniye proizvodstvom mashinostroitel'nogo zavoda (Production Management in the Machine-Building Plant) Moscow, Mashgiz, 1960. 179 p. Errata slip inserted. 4,500 copies printed.

Reviewer: I. Ya. Kasitskiy, Engineer; Ed.: B.I. Maydanchik, Engineer;
Exec. Ed. (Ural-Siberian Division, Mashgiz): M.A. Bezukladnikov, Engineer;
Tech. Ed.: N.A. Dugina.

PURPOSE: This book is intended for those engaged in production plant management.

COVERAGE: The book deals with production management practices of leading Soviet machine-building plants and socialist principles and methods of supervising production. The structure of plants, shops, departments, and sections and their functions, powers, and responsibilities are analyzed. The organization of the work of the plant director, chief engineer, shop superintendent, section superintendent, and foreman is discussed. The importance of documentation and means of improving plant accounting and record-management systems are studied.

Card 1/5

ANIKIN, Nikolay Aleksandrovich; DROBYSHEVSKAYA, Nadezhda Ivanovna;
 DUDINOV, Vladimir Alekseyevich; KON'KOV, Arkadiy
 Sergeyevich; KONYUKHOV, Sergey Mikhaylovich; MESHCHERINOV,
 Fedor Ivanovich; POLETSKIY, Aleksandr Timofeyevich; POLYAKOV,
 Gleb Maksimovich; SAL'NIKOV, Oleg Alekseyevich; CHERNOBAY,
 Dmitriy Gavrilovich; GAVRILOV, P.G., kand. tekhn.nauk, retsen-
 zent; NEFED'YEV, G.N., kand. fiz.-mat. nauk; SOKOLOV, V.M.,
 kand. fiz.-mat. nauk; SOKOLOVSKIY, V.I., kand. tekhn. nauk;
 RUDIN, S.N., inzh.; EYDINOV, M.S., kand. tekhn. nauk; DUBITSKIY,
 G.M., doktor tekhn. nauk, red.; ZAKHAROV, B.P., inzh., red.;
 KONOVALOV, V.N., kand. tekhn. nauk, red.; PERETS, V.B., kand.
 tekhn. nauk, red.; ROZENBERG, I.A., kand. ekonom. nauk, red.;
 STEPANOV, V.V., kand. tekhn. nauk, red.; SUSTAVOV, M.I., inzh.,
 red.; SHABASHOV, S.P., kand. tekhn. nauk, red.; DUGINA, N.A.,
 tekhn. red.

[Handbook for inventors and innovators] Spravochnik dlia izobre-
 tatelia i ratsionalizatora . [By] N.A. Anikin i dr. Izd. 3., ispr.
 i dop. Moskva, Mashgiz, 1962. 791 p. (MIRA 16:1)
 (Technological innovations—Mechanical engineering)

VERSHININ, A.M.; GANSHTAK, V.I.; ZHUKOV, P.A., prof.; ~~KONOVALOV, V.N.~~
MASLICH, G.Ye.; RADUKIN, V.P.; ROZENBERG, I.A.; SMIRNITSKIY,
Ye.K.; PRUDENSKIY, G.A., retsenezent; NEYMARK, A.I., doktor
tekhn. nauk, prof., retsenezent; BEZUKLADNIKOV, M.A., inzh.,
ved. red.; DUGINA, N.A., tekhn. red.

[Economics of machinery manufacturing; the organization and
planning of enterprises] Ekonomika mashinostroeniia, organi-
zatsiia i planirovanie predpriatii. [By] A.M. Vershinin i dr.
Moskva, Mashgiz, 1963. 504 p. (MIRA 16:9)
(Machinery industry--Management)

KONOVALOV, V. N.

KONOVALOV, V.N., inzh.

Train equipped with a gas-turbine locomotive. Elek. i tepl. tiaga
(MIRA 11:3)
2 no.1:46 Ja '58.
(Mexico--Locomotives)

KONOVALOV, V.N., inzh. (Dnepropetrovsk)

New German electric locomotives. Elek. i tepl. tsiaga 2 no.12:
43-44 D '58. (MIRA 12:1)
(Germany, West--Electric locomotives)

KONOVALOV, V.N., inzh.

German electric railroads(from "Bundesbahn," Nos. 13-14 1957).
Elektrichestvo no. 5:86 My '58. (MIRA 11:7)
(Germany--Electric railroads)

KONOVALOV, V.N., inzh.

Harmonics produced by single-phase electric locomotives equipped
with ignitrons. Elektrichestvo no.7:81 J1 '58. (MIRA 11:8)
(France—Electric locomotives)

KONOVALOV, V.N., inzhener, (Dnepropetrovsk).

Underestimation of the electrification of agriculture ("Mechanization and electrification of agriculture." S.A.Iofinov, B.G. Turbin, A.A.TSyrin. Reviewed by V.N.Konovalov). Elektrichestvo no.9:88 S '56. (MLRA 9:11)
(Electricity in agriculture) (Iofinov, S.A.) (Turbin, B.G.)
(TSyrin, A.A.)

KONOVALOV, V.N., inzhener, (Dnepropetrovsk).

"Manual of the rural electrician" by V.M. Odintsov, Reviewed
by V.N. Konovalov. Elektrichestvo no.11:96 N '56. (MLRA 9:12)

(Electric engineering)

KONOVALOV, V.N.

A useful book "Chemistry in everyday life." P.B.Kazarian. Reviewed by V.N.Konovalev. Khim.v shkole 11 no.6:72 H-D '56.
(Chemistry--Study and teaching) (MLBA 9:12)
(Kazarian, P.B.)

IV.

KONOVALOV, V. (Dnepropetrovsk)

The book on chemistry and agriculture ("Chemistry and agriculture"
by S.I. Vol'fkovich. Reviewed by V. Konovalov). Khim. v shkole 12
no. 1:76-77 Ja-F '57. (MLA 10:3)
(Agricultural chemistry) (Vol'fkovich, S.I.)

KONOVALOV, V.N. uchitel'

Safety techniques in conducting laboratory experiments in chemistry. Khim.v shkole 14 no.3:64-71 My-Je '59. (MIRA 12:9)

1. Srednyaya shkola No.33 g.Dnepropetrovska.
(Chemistry--Experiments)
(Chemical laboratories--Safety measures)

POPOVA, L.F.; ROGOZHIN, V.K.; KONOVALOV, V.N. (Dnepropetrovsk);
GRUTSEVICH, V.D., uchitel'; LUTSIK, P.P.; uchitel'

Editor's mail. Khim. v shkole 16 no.6:84-86 N-D '61. (MIRA 14:11)

1. Direktor Stalingradskoy oblastnoy stantsii yunyh tekhnikov
(for Gorozhin). 2. Srednyaya shkola No.1, g. Gorlovka, USSR
(for Grutsevich). 3. Budishchanskaya srednyaya shkola, Poltavskaya
oblast', USSR (for Lutsik).
(Chemistry—Study and teaching)

BAISHEV, B.T.; BUCHIN, A.N.; DERGUNOV, P.V.; GLEBOVA, T.A.; KONOVALOV,
V.P.

Permissible degree of flooding before a number of wells are shut
off. Neft. khoz. 42 no. 5:39-44 My '64. (MIRA 17:5)

GUZHNOSKIY, L.P.; KONOVALOV, V.P.; LUZINA, N.I.; NESTEROV, N.Ye.

Economic effectiveness of scientific investments of petroleum
production equipment; based on studies of the All-Union Instru-
ment Scientific Research Institute. Trudy VNIi no.39: 174-186 '63.
(MIRA 17:10)

137-58-6-13454

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 330 (USSR)

AUTHORS: Alferova, N. S. , Kononov, V. P.

TITLE: Brittle-fracture Tendencies in Pipes Made of Kh25T Steel as a Function of the Processing Methods (Sklonnost' trub iz stali Kh25T k khrupkomu razrusheniyu v zavisimosti ot usloviy obrabotki)

PERIODICAL: Byul. nauchno-tekhn. inform. Vses. n.-i. trubnyy in-t, 1957, Nr 3, pp 92-100

ABSTRACT: The effect of rolling and heat-treatment operations on brittle fracture tendencies in pipes made of heat-resistant ferrite Kh25T steel was investigated. Impact tests and static and dynamic tensile tests were performed at temperatures ranging from 20 to 200°C on pipe specimens which were tempered at temperatures of 500-1100° after having been rolled, at increased and reduced temperatures, on two machines, namely, a continuous and an automatic one. It was established that maximum critical brittleness temperatures, T_{br} , appear in the absence of heat-treatment procedures and after quenching at low (500°) or at high (1100°) temperatures. Minimum values

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137-58-6-13454

Brittle-fracture Tendencies in Pipes (cont.)

of T_{br} correspond to tempering temperatures ranging from 700 to 850°. The higher the temperature of rolling, the lower is the tempering temperature at which the T_{br} begins to increase. Pipes produced on the automatic rolling mill exhibit a higher T_{br} . It is noted that the increase in T_{br} occurring at increased tempering temperatures is connected with the growth of ferrite grains; however, the T_{br} is also affected by other factors, e. g., the rate of cooling. Slow cooling increases the T_{br} , provided the grains are of uniform size. Unlike impact testing, the tensile tests are not suitable for accurate determination of the T_{br} . On the strength of the results obtained, it is recommended that hot rolling be carried out at reduced temperatures and that the subsequent thermal processing be performed in conjunction with rapid cooling.

1. Steel pipes--Production 2. Heat resistant steel--Heat treatment P. V.
3. Heat resistant steel--Mechanical properties 4. Heat resistant steel--Test results
5. Rolling mills--Metallurgical effects

Card 2/2

BELYAYEV, V.A., kand.tekhn.nauk; KABENIN, N.G., kand.tekhn.nauk; KOMOVALOV,
V.P., inzh.; LUGININ, N.G., kand.tekhn.nauk; MIROMENKO, N.P.,
kand.tekhn.nauk; SIDOROV, N.I., inzh., red.; KHITROV, P.A., tekhn.
red.

[Analysis of the system and organization of electric and diesel
locomotive repair] Analiz sistemy i organizatsii remonta electrevozev
i tellevozov. Moskva. Gos.transp. shel-der. izd-vo. 1958. 206 p.
(Moscow. Vsesoiuznyi nauchno-issledovatel'skii institut
zheleznodorozhnogo transporta. Trudy, no. 155). (MIRA 11:8)
(Locomotives—Maintenance and repairs)

ALFEROVA, N.S.; KONOVALOV, V.P.

Using the penetration-fracture test of beveled specimens for
determining optimum deformation temperatures. Bul. TSHIICEM
no.5:49-50 '58. (MIRA 11:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy trubnyy institut.
(Steel-Testing)

KONOVALOV, V. P.

133-1-16/24

AUTHORS: Alferova, N.S., Pishchikov, G.P., and Konovalov, V.P.

TITLE: Production of Hot Rolled Tubes from Steel 3A595 and Their Properties (Proizvodstvo goryachekatanykh trub iz stali EI 595 i ikh svoystva)

PERIODICAL: Stal', 1958, No.1, pp. 60 - 66 (USSR)

ABSTRACT: An investigation of the suitability of heat-resistant steel 3A595 for hot rolling of tubes is described. Specimens of metal cut out from tube semis (Fig.3) were tested under laboratory conditions, for deformability and piercing ability in a wide range of temperatures at various degrees of reduction. The results obtained were compared with those for other heat-resistant steels: X25T, X25R5, carbon steel 10 and stainless steel 1X18H9T (Figs. 1, 2 and 4). As steel 3A595 is brittle in the cold state, the influence of heat treatment on this property was investigated. The results of tests for impact strength of specimens hardened and slow-cooled from 950 °C are shown in Fig.5, together with the values for impact strength after hardening from 750, 850, 900 and 1 000 °C. It was found that to prevent temper brittleness, it is necessary to apply rapid cooling of tubes in water from 950 - 1 000 °C.

Card1/3 Experimental hot rolling of tubes was done on a laboratory mill from specimens of 35 mm diameter and 120 mm long, cut out from

1 hour soaking) are given in Table 2 and Figs. 8 and 9. The following personnel of the Plant ~~Imeni Leni~~ participated in the work: I.N. Gulyayev, N.M. Kolpovskiy, A.M. Ludenskiy, N.M. Bukhman, K.F. Beskorvnyy and P.P. Bezrukavyy. There are 2 tables,

Card2/3

AUTHORS: Rudoy, V.S., Alferova, N.S., ~~Konov~~ SOV/133-59-1-15/23
Korobochkin, I.Yu., Kirvalidze, N.S., Dergach, A.Ya. and
Yakimenko, N.S., Nesterova, N.N.

TITLE: The Technology of Production of Seamless Tubes from High-
alloy Steels Alloyed with Boron (Tekhnologiya proizvodstva
besshovnykh trub iz vysokolegirovannykh staley s borom)

PERIODICAL: Stal', 1959, ¹⁹Nr 1, pp 68 - 73 (USSR)

ABSTRACT: Efforts made in 1956 to produce seamless tubes from high-
alloy steels containing boron EI769 and EI770 gave
negative results but in 1957 after some changes in the
technology of smelting the metal, satisfactory results
were obtained although there were no substantial changes
in the chemical composition of the metal (%), numerator -
data for 1957, denominator - for 1956):

	C	Si	Mn	Cr	Ni	W	Ti	B
EI769(Kh13N16TR)	0.08 0.07	0.55 0.64	1.65 1.73	13.7 13.7	15.7 14.9	-	0.81 0.90	0.009 0.0037
EI770(Kh13N18V2TR)	0.08 0.08	0.51 0.56	1.58 1.90	13.2 14.2	19.7 19.4	2.34 2.10	0.81 0.69	0.0023 0.0026

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The Technology of Production of Seamless Tubes from High-alloy Steels
Alloyed with Boron SOV/133-59-1-15/23

The main characteristics of the technology of smelting
metal in 1956 and 1957 differed as follows: a) in 1956,
smelting was carried out in a 20-ton arc furnace from a
charge containing 40-47% of stainless scrap (the remaining-
soft iron and fresh ferroalloys); oxygen was used during
melting and oxidising period (500 - 700 m³ per heat); slag
and metal were deoxidised before the addition of ferro-
chromium and with the addition of ferrotitanium onto the
metal freed from slag 15-20 min before tapping; b) in
1957 smelting was carried out in a 4.5-ton arc furnace from
a fresh charge containing from 55 to 78% armco iron and
corresponding ferroalloys without utilisation of scrap and
oxygen; refining under a white slag with the addition of
ferrotitanium after the removal of slag 8-10 min before
tapping. In both cases the metal was cast in 500-kg ingots.
The quality of tube billets 85 mm in diameter in 1957 was
higher than in 1956. The microstructure of metal in both
cases consisted of austenite with fine intermetallic
inclusions, stretched in the form of lines along the
direction of rolling. Piercing ability of the steels was
tested on conical specimens (Ref 3). The determination of

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The Technology of Production of Seamless Tubes from High-alloy
Steels Alloyed with Boron

SOV/133-59-1-15/23

plasticity and structure of steels was carried out within a temperature range 950 - 1300 °C. Both steels were found to possess a comparatively high plasticity in the temperature range 975 - 1075 °C (Figures 1 and 2), higher than for steel 1Kh18N9T. However, the plasticity of the latter steel increases with increasing temperature while for EI769 and 770 it sharply decreases. In hot torsion tests (Figures 3 and 4) the differences in the plasticity of the experimental steels was more pronounced. The resistance to deformation of both steels is similar (Figure 4) but at all temperatures, is higher than for 1Kh18N9T steel. In hot torsion tests the loss of plasticity of the experimental steels was less pronounced than in piercing tests. In the first case, loss of plasticity was observed at 1300 °C and in the second case at 1250 °C. On the basis of the above investigation the following piercing practice for the industrial conditions was proposed: the temperature of billets before the mill 960-980 °C, piercing temperature 1100 - 1120 °C, in addition piercing at 1140 - 1150 °C and 1180 - 1200 °C was tested. Hot rolling of tubes

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The Technology of Production of Seamless Tubes from High-alloy
Steels Alloyed with Boron

SOV/133-59-1-15/23

under industrial conditions is described in some detail. The results obtained are given in Table 1. The inspection of tubes after pickling indicated that for steel EI769 the proposed piercing practice (temperature 1 100 - 1 120 °C) gave the best results. A large-scale rolling of tubes from this steel yielded 90% of good-quality products. Rolling of tubes from steel EI770 was tried at four different temperature ranges (temperature before piercing: 920-980; 980-1 000; 1 020-1 040 and 1 040-1 050 °C - Table 2). Optimum results were obtained at a temperature before piercing of 950 °C. 95% of good-quality tubes was obtained. Mechanical properties of hot-rolled tubes before and after hardening are given in Table 3. Hardening of tubes was carried out from 1 100 °C. The dependence of the consumption of energy, power and heating-up of the metal during piercing on the temperature of the metal before piercing is shown in Figure 6. It is concluded that:
1) boron-containing steels of austenitic class EI769 and EI770 possess a lowered temperature at the beginning of incipient melting of grain boundaries; their optimum plasticity is shifted towards lower temperatures; they

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The Technology of Production of Seamless Tubes from High-alloy
Steels Alloyed with Boron SOV/133-59-1-15/23

possess high resistance to deformation and heat up intensively during piercing. The resistance to deformation of these steels is higher than of 1Kh18N9T steel which makes their piercing more difficult, particularly that with increasing temperature their plasticity decreases (unlike 1Kh18N9T steel). The developed methods of rolling ~~these steels give quality~~ hot-rolled tubes from EI769 steel without repairs and from EI770 steel with repairs which are usually permitted for high-alloy tubes, providing the metal is produced from fresh charges by the improved (1957) technology. The results of measurements of power consumption and heating up can be utilised for an approximate evaluation of these parameters during piercing of other austenitic steels. There are 6 figures, 3 tables and 6 Soviet references.

Card5/5

ALFEROVA, N.S.; RIZOL', A.I.; KONOVALOV, V.P.

Electron microscopy of deformation and failure of highly alloyed
steels. Issl. po sharopr. splay. 6:300-307 '60. (MIRA 13:9)
(Steel alloys--Metallography) (Deformations (Mechanics))

This collection of 45 articles deals with various problems in the production of heat-resistant alloys. Special attention is paid to the mechanisms of deformation of such metals as aluminum, copper, iron and nickel. Various defects and failures of metals are analyzed, and means for increasing the heat resistance and plasticity are described.

ALFEROVA, N.S.; RIZOL', A.I.; KONOVALOV, V.P.

Preparing impressions for electron microscopic examination. Zav.
lab. 26 no.3:312-313 '60. (MIRA 13:6)

1. Ukrainskiy nauchno-issledovatel'skiy trubnyy institut.
(Steel--Metallography) (Electron microscopy)

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S/137/61/000/003/061/069
A006/A101

~~1145, 1146~~ 1413, 1454, also 1145, 1
AUTHORS: Alferova, N. S., and Konovalov, V. P.

TITLE: Recrystallization of heat resistant steels under conditions of hot deformation

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 3, 1961, 36, abstract 3Zh227 ("Tr. Ukr. n.-i. trubn. in-ta", no. 1, 1959, 218-240)

TEXT: The authors investigated grain growth in X25T (Kh25T) and EI428 (EI428) steel during hot rolling and subsequent heat treatment at 850°C. For the precise determination of the critical degree of reduction, the method of rolling tapered specimens was employed. The deformation range was 0 - 75%; the hot rolling speed was 0.5 m/sec. For Kh25T steel hot rolling temperatures from 700 to 1,250°C and for EI428 steel temperature from 700 to 1,150°C were investigated in intervals of every 50 degrees. It was found that hot rolling in the aforementioned range did not entail excessive grain growth. However, in the case of subsequent heat treatment at 850°C zones of critical deformation were revealed causing strong growth of the grains. This predetermines a further brittle state of the steel during cold treatment. The authors present three-dimensional diagrams of

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Recrystallization of heat resistant steels ...

S/137/61/000/003/061/069
A006/A101

recrystallization at 850°C, characterizing grain growth depending on the degree and temperature of preceding hot rolling. It was established that for Kh25T steel of the ferrite class, an increase of hot rolling temperature up to > 900°C considerably enlarges the zone of critical deformation. This entails excessive grain growth during the process of subsequent recrystallization, even under conditions of higher degrees of deformation. For the purpose of reducing the proneness to brittle failure during subsequent cold treatment, the following hot rolling conditions are recommended: initial hot rolling temperature < 1,080°C, final hot rolling temperature - 900°C and less. It is shown that for EI428 steel of the semi-ferrite class, the use of higher hot rolling temperatures is possible (1,000 - 1,150°C) which assure a fine grained structure over the whole deformation range during subsequent heat treatment at 850°C. This is due to the phase transformation and recrystallization process occurring in the steel. There are 18 references.

A. B.

[Abstractor's note: Complete translation.]

Card 2/2

S/137/61/000/002/031/046
A006/A001

Translation from Referativnyy zhurnal, Metallurgiya, 1961, No. 2, p. 36 # 2Zh262

AUTHORS: Alferova, N. S., Rizol', A. I., Konovalov, V. P.

TITLE: Electron-Microscopical Investigation of Structural Changes During the Cold Deformation of Steel

PERIODICAL: "Buyl. nauchno-tekhn. inform. Ukr. n.-i. trubn. in-t", 1959, No. 8 pp. 75-84

TEXT: The electron-microscopical method was employed to investigate structural changes caused by plastic deformation in steels of the austenite, ferritic and semi-ferritic class. After mechanical grinding the specimens were subjected to anode polishing in concentrated H_2NO_3 and to etching in a reactive agent composed of 75 g KCl and 5 g citric acid per 1 liter of water. After polishing and etching the specimens were deformed. Ti-films were used for the electron-microscopical examination. It was found that elementary acts of slip in semi-ferritic 3M 428 (EI428) steel specimens, were originated in micro-volumes located mostly near the grain boundaries. The slip resistance of various

✓

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5/137/62/000/004/112/201
A052/A101

AUTHORS: Alferova, N. S., Rizol', A. I., Kononov, V. P.

TITLE: A possible structural reason for a different deformability of austenitic and ferritic steels in a cold state

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 4, 1962, 51, abstract 4I304
(V sb. "Proiz-vo trub", no. 4, Khar'kov, Metallurgizdat, 1961, 128 - 133)

TEXT: An assumption is expressed to the effect that a lower ability of ferritic steels for plastic deformation in a cold state, as compared with austenitic ones, is conditioned by the presence in ferritic steels of fewer planes along which shear is possible. A study of different stages of deformation of austenitic and ferritic steel samples entitled an assumption on the possible reasons for different ductility of these steels in a cold state. In austenitic steel an external load is distributed uniformly over the deformed metal volume within the grain boundaries, in ferritic steel the load is obviously localized in individual sections of the deformed metal volume. As a result of this the brittle crack de-

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Card 2/2

S/659/62/008/000/023/028
I048/I248

AUTHORS: Alferova, N.S., Rizol', A.I., Konovalev, V.P., and Alpatov, Ye.N.

TITLE: An electron-microscope study of the structure of tough fracture of steel 1Kh18N9T

SOURCE: Akademiya nauk SSSR. Institut metallurgii, Issledovaniya po zharoprochnym splavam. v.8. 1962. 172-177

TEXT: The tough fracture of austenitic steel 1Kh18N9T was studied under the electron microscope (magnification x5000). Specimens with a fine grain structure prepared by hot drawing (at 1100°C) followed by heating for 2 hrs. at 950°C were quenched in water; coarse grain structure was obtained by hot drawing at 1100°C, further drawing at 1250°C, to a deformation of 3.6%, holding at 1250° for 2 hrs., and quenching in water. The impact strengths of the fine- and coarse-grain specimens were 17.3-18.8 and 20.2-22.5 kg./sq.cm. respectively. The photomicrographs of the fracture were taken by the Ti-replica technique. Under identical conditions, the facets on the fracture

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S/659/62/008/000/023/028
I048/I248

An electron-microscope study...

surface of the coarse-grain specimens were much larger than those on the finer grain ones. The facets on specimens fractured under static loads were considerably smaller than the ones on impact-fractured specimens. The authors reject the theory according to which tough fracture starts and proceeds along inclusions and precipitates, and discuss the phenomena taking place during fracture in the light of the dislocations theory. There are 5 figures and 1 table. ✓

Card 2/2

BUCHIN, A.N.; KONOVALOV, V.P.

Correcting the economic indices of the development of the
separate layers of a multi-layered field. Trudy VNI no.39:
64-75 '63. (MIRA 17:10)

ACCESSION NR: AR4018333

8/0137/64/000/001/1063/1064

SOURCE: RZh. Metallurgiya, Abs. 11395

AUTHOR: Alferova, N. S.; Rizol', A. I.; Konovalov, V. P.; Alpatov, Ye. N.

TITLE: The use of the ~~theory of dislocations~~ for explaining the structure of gliding fracture of 1Kh18N9T steel

CITED SOURCE: Sb. Proiz-vo trub. Vy* p. 9. M., Metallurgizdat, 1963, 93-98

TOPIC TAGS: 1Kh18N9T steel, impact bend test, static testing, electron microscope analysis, gliding fracture

TRANSLATION: With the use of Ti samples, electron microscope study of fractures in samples of St1Kh18N9T destroyed by impact and static bending was conducted. In destruction by impact bending, the sizes of the edge faces ("cuplets") in the fracture of large-grained samples were considerably larger than on the fracture surface of fine-grained samples. In destruction by static bending, the edge faces on the fracture of the large-grained samples were considerably smaller than those which were observed in the impact destruction of large-grained samples. It is proposed, that in impact destruction, as a result of the rapidly increasing loads,

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Card 2/2

KONOVALOV, V.P.; FIRSOV, V.P.; KOVRIZHIN, A.K.

Reliable powered supports and equipment complexes for Kuznetsk
Basin mines. Ugol' 38 no.3:46-48 Mr. '63.

(MIRA 18:3)

1. Shakhta "Abashevskaya 3--4" Kuznetskogo ugol'nogo basseyna
(for Konovalov). 2. Kuznetskiy nauchno-issledovatel'skiy ugol'nyy
institut (for Firsov, Kovrizhin).

1.3.131-65 EWT(m)/EWA(d)/EWP(t)/T/EWP(b) MJW/JD

NR: AR5000592

S/0137/14/000/003/1042/1042 ²⁰₁₅ B

SOURCE: Ref. zh. Metallurgiya. Sv. t., Abs. 8I270

AUTHOR: Alferova, N. S.; Rizol', A. I.; Kononov, V. P.; Alpatov, Ye. N.

TITLE: Mechanism of slip and work hardening in austenitic steel Kh18N10T 4

CITED SOURCE: Sb. Proiz-vo trub, vy*p. 12. M., Metallurgiya, 1964, 78-83.

TOPIC TAGS: austenitic steel, work hardening, metal hardening, steel microstructure, slip formation/ steel Kh18N10T

TRANSLATION: The structure of traces of slip in coarse grain austenitic steel Kh18N10T was studied using a UEM-100 electron microscope with carbon and titanium replicas. Deformation of notched specimens of the Menazhe type was carried out by bending deflection of 12 mm. The central portion of the deformed surface, which had the maximum deformation, was studied. Presence of traces of slip

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L 26121-65

ACCESSION NR: AR5000592

was established on the surface of samples of steel Kh18N10T after bending deformation; these traces have the same structure as deformed face-centered cubic single crystals of copper, aluminum, and other metals. Long uniformly distributed slip lines are evidence that, during the process of deformation of the steel in discrete microvolumes, slip takes place in one system of crystallographic planes (the stage of slight slip). Slight slip in austenitic steel is the result of movement in the plane (111) of two partial dislocations, which are connected by a packing defect and therefore cannot pass into another slip plane under the effect of stresses within the volume in question. This accounts for the presence of straight slip lines. The observed wavy and broken traces of slip and slip bands indicate that, at certain degrees of deformation, transverse deformation hardening of the steel is related to the cleavage resistance of elongated dislocations and to the slowing the slip process of stationary dislocations on several planes. 7 literature titles, L. Jordanov.

ENCL: 00

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BAISHEV, B.T.; BUCHIN, A.N.; DERGUNOV, P.V.; GLEBOVA, T.A.; KONOVALOV, V.P.

Practicable degree of the drowning of a series of wells when
they are switched off from exploitation. Trudy VNII no.42:
294-321 '65. (MIRA 18:5)

KABENIN, N.G., kand. tekhn. nauk; KONOVALOV, V.P., inzh.; OZEMBLOVSKIY, V.Ch.,
inzh.

Optimum periodicity of the technical inspection of NB412M traction
engines. Vest. TSNII MPS 24 no.5:30-34 '65. (MIRA 18:9)

										1ST AND 2ND ORDERS										3RD AND 4TH ORDERS																																							
KONOVALOV, V. S.																														PROCESSES AND PROPERTIES INDEX																													
CO																														17																													
<p>Composition of essential oil of camphor bark. V. S. Konovalev. Farmatsiya i Farmakol. 1938, No. 5, 13-19; Khim. Referat. Zhur. I, No. 11-12, 158(1938).—The essential oil was sepd. (after fractionation at 20 mm. Hg) into hydrocarbons and into O-contg. products. After repeated fractionation the following hydrocarbons were obtained and identified: dipentene, tricyclicene, crithmene, limonene (about 15%), d-a-pinene, sabinene, and camphene (about 10%). From the O compds. were sepd. camphor, alks. (about 5%), aldehydes (about 3%), caryophyllene (about 1%), and traces of phenol and of AcOH.</p> <p style="text-align: right;">W. R. Henn</p>																																																											
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION																																																											
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Alkaloids of *Cacalia hastata*. V. S. Kononov and G. P. Men'shikov (All Union Chem. Pharm. Research Inst., Moscow). *J. Gen. Chem. (U.S.S.R.)* 15, 328-31 (1945) (English summary).—Two kg. of air-dried *Cacalia hastata* (super-soil portions only) was thoroughly wetted by 10% NH_4OH and extd. with $\text{C}_6\text{H}_5\text{Cl}$; the ext. was extd. with 5% H_2SO_4 , and the latter made alk. with 25% NH_4OH and extd. with CHCl_3 . After drying and removing the solvent 5 g. of tarry product was obtained, which crystall. slowly to yield 1.7 g. *hastacine*, m. $170-1^\circ$ (from EtOH). The alkaloid is sol. in EtOH , CHCl_3 , and Me_2CO , slightly sol. in Et_2O . Its compn. is $\text{C}_{17}\text{H}_{19}\text{NO}_4$, $n_D^{20} - 2.38^\circ$, $[\alpha]_D^{20} - 72.34^\circ$. The alkaloid is hydrolyzed by boiling 7% aq. KOH to yield a dibasic HO acid, $\text{C}_{17}\text{H}_{17}\text{O}_6$, which was named *hastaneic acid*, and an amino glycol, $\text{C}_{17}\text{H}_{19}\text{NO}_4$, m. $113-14^\circ$ (from Me_2CO), $n_D^{20} - 0.7^\circ$, $[\alpha]_D^{20} - 0.07^\circ$, which was named *hastanine*. The alkaloid possesses excellent spasmolytic properties. G. M. K.

KONOVALOV, Vitaliy Sergyevich, inzhener; DIUGACH, Boris Abramovich, kandidat
tekhnicheskikh nauk; GRINEVICH, G.P., professor, retsentsent; NYGEL',
I.Yu., inzhener, redaktor; UVAROVA, A.F., tekhnicheskij-redaktor

[Work practices of heavy machinery industry railroad shops] Opyt
raboty shleznodorozhnykh tsekhov zavodov tiashelogo mashinostroeniia.
Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 129 p.
(Railroads) (MIRA 9:12)
(Machinery industry)

BELYAKOV, Ye.P.; KONOVALOV, V.S.; NARTOV, G.I.; PONOMAREV, V.S.;
STUDNITSYNA, K.P., red.; ALEKSEYEVA, T.V., tekhn. red.

[Rolling stock and equipment of railroad and city
transportation; catalog-handbook] Podvizhnoi sostav i
oborudovanie zheleznodorozhnogo i gorodskogo transporta;
katalog-spravochnik. Moskva, TsNIIMASH. Sec.1. 1962. 219p.
(MIRA 16:8)

(Streetcars) (Railroads--Rolling stock)

BOLYCHEV, N.G., machinist; KONOVALOV, V.S.

~~Electric locomotives~~
Voltage regulator of the ChS2-series electric locomotive;
installation, principle of operation, and maintenance instruc-
tions. Elek. i tepl. tiaga 7 no.3:32-35 Mr '63. (MIRA 16:6)

1. Depo Moskva-Tekhnicheskaya (for Bolychev). 2. Nachal'nik
preisvedstvenno-tekhnicheskogo otdela depo Moskva-Tekhn-
icheskaya (for Konevlev).

(Voltage regulators)

(Electric locomotives—Electric equipment)

KONOVALOV, V.S.; FISENKO, I.P., mashinist

Pneumatic equipment of the series ChS2 electric locomotive.
Elek. i tepl. tiaga 7 no.9:41-43 S '63. (MIRA 16:10)

1. Nachal'nik proizvodstvenno-tekhnicheskogo otdela depo Moskva-
Tekhnicheskaya (for Konovalov).

LEVIN, S.L., prof., doktor tekhn.nauk; KONOVALOV, V.S., inzh.; CHERNENKO,
F.A., inzh.; KUZNETSOV, M.P., inzh.; SOLOGUE, S.L., inzh.

Some problems of smelting and pouring rimmed chromium steel.
Izv.vys.ucheb.zav.; Chern.met. no.10:15-22 0 '58.

(MIRA 11:12)

1. Dnepropetrovskiy metallurgicheskiy institut i metallurgicheskiy
zavod imeni Dzerzhinskogo.

(Chromium steel--Metallurgy)

KONOVALOV, V.S.

Effect of chromium and manganese content in rimmed steel on
the ingot structure. Izv.vys.ucheb.zav.; chern.met. no.4:
77-85 '60. (MIRA 13:4)

1. Dnepropetrovskiy metallurgicheskiy institut.
(Steel--Metallurgy) (Steel ingots)

S/148/60/000/006/011/016/XX
A161/A030

AUTHORS: Konovalev, V.S.; Lapitskiy, V.I.

TITLE: The Effect of Chromium on the Formation of Rimming Steel Ingots

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, 1960,
No. 6, pp. 41 - 46

TEXT: Insufficient rimming of chromium containing steel in ingot molds had already been explained by various authors. The effect of chromium was studied in the described experiments. The effect on oxygen content was investigated with additions of ferrochromium into liquid metal; the chemical composition of floating slag and of non-metallic inclusions was analyzed and the changes of the metal composition observed. The results are compared with the data of other papers (Refs. 2 - 4). It was revealed that 90 - 96% of carbides in the metal were iron carbides, and the remainder chromium and manganese carbides. No clear relation could be found between the chromium content and the quantity of the carbides. Considerable quantities of chromium oxide were present in the slag and non-metallic inclusions, which indicated a considerable oxidization of Cr during the ingot formation. Where a low content of Cr is present in iron the oxidization product

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S/148/60/000/006/011/016/XX
A161/A030

The Effect of Chromium on the Formation of Rimming Steel Ingots

is apparently iron chromite FeCr_2O_4 . Its solid particles suspended in solidifying metal drastically restrict its motion and the formation and effervescence of gas bubbles. Iron chromites are chemically active and take part in the formation of a durable "foam" on the metal surface. The "foam" has a low heat conductivity, absorbs chromium oxides and turns rapidly into a solid crust; the crust isolates the metal from the air thus obstructing the access of oxygen from the carbon. It is obvious that the presence of Cr inhibits the formation and separation of gas. The crystallization front apparently develops faster than the growing gas bubbles and they remain in the metal. This explains why ingots of rimming steel with a high Cr content have holes, the thin outer crust being composed of dense metal, and a very loose mid (Fig. 3). The analyses were carried out by Ye.M. Sabilina, L.U. Barash, A.V. Mitroshina and L.S. Tarasova. Conclusions: 1) Cr content of 0.05 - 0.43% in rimming steel does not perceptibly raise the carbides content. 2) The presence of up to 0.25% Cr in rimming steel with a normal manganese content (0.32 - 0.35%) practically does not effect the oxygen content, but the rimming intensity in ingot molds changes from intense to very weak. 3) A considerable quantity of Cr oxidizes during the formation of the ingot. 4) The major cause of the slowdown in the gas formation and gas separation appears to be the oxidization

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S/148/60/000/006/011/016/XX
A161/A030

The Effect of Chromium on the Formation of Rimming Steel Ingots

of Cr with the formation of iron chromites. This explains the weakened rimming in molds and the porosity of ingots. Note: Apart from this, the formation of solid Cr oxidization products appear to speed up solidification, but this has yet to be verified. There are 3 figures and 6 references: 5 Soviet and 1 German.

ASSOCIATION: Dnepropetrovskiy metallurgicheskiy institut (Dnepropetrovsk Metallurgical Institute)

SUBMITTED: November 11, 1959

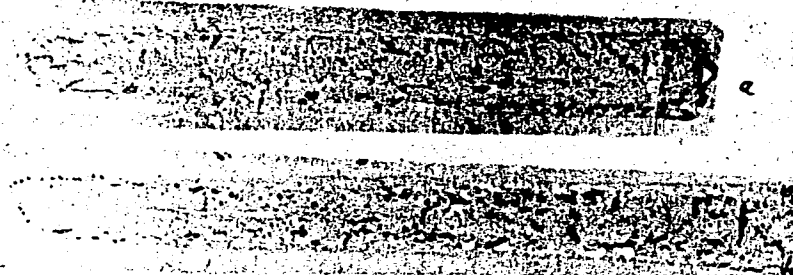


Figure 3: The Cr effect: a - metal with 0.14% C, 0.33% Mn and 0.05% Cr; b - metal with 0.14% C, 0.33% Mn and 0.18% Cr.

Card 3/3

KONOVALOV, V. S., ²CAND TECH SCI, "CERTAIN PROBLEMS OF *the*
PRODUCTION OF RIMMING STEEL WITH *admixture* ~~ADDITION~~ OF CHROMIUM."
DNEPROPETROVSK, 1961. (ACAD SCI UKSSR, INST OF FERROUS
METALLURGY). (KL, 3-61, 216).

S/133/62/000/007/003/014
A054/A127

AUTHORS: Goncharov, I.A.; Yem, A.P.; Konovalov, V.S.; Lapitskiy, V.I.;
Marakhovskiy, I.S.; Filonov, V.A.; Khitrik, S.I.; Yaitskiy, A.K.

TITLE: Determination of the optimum composition of silico-chromane and its
application in alloying 14X Γ C (14KhGS) grade steel

PERIODICAL: Stal', no. 7, 1962, 615 - 616

TEXT: Tests were carried out (with the cooperation of A.S. Rabinovich, G.T. Duzenko, M.V. Pal'chik, M.I. Vaynshtok, P.L. Konstantinov, et al.) on the application of silicochromane (with 15 - 18% Si, 25 - 40% Mn and 25 - 35% Cr) in alloying 14KhGS grade steel. (The application of this ternary alloy was proposed by V.F. Mazov, I.S. Marakhovskiy, I.M. Leykin, A.A. Khomutov, A.A. Podgorodetskiy.) Silicochromane for the tests was produced from ferromanganese, ferrochrome, ferrosilicon, etc.; the test steel was smelted in a 10-kg induction furnace and in 15-ton and 220-ton open-hearth furnaces. Besides testing ferrochromane with various percentages of the main components, the investigations also covered the possibility of adding this alloy to the steel without its previous

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Determination of the optimum composition

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A054/A127

reduction. When ferrochromane was added to the bath without previous reduction, the burning out of manganese was 35%, that of silicon 80 - 85%, while, when it was added to the reduced bath the corresponding values were not more than 4 - 5 and 45 - 50%. The burning loss of chrome is not greatly affected by the degree of bath-reduction. By reference to laboratory tests, silicochromane with 32 - 34% Mn, 35 - 36% Si and 18 - 19% Cr was used in the pilot plant tests with a 15-ton open-hearth furnace. In these tests silicochromane replaced silicomanganese in preliminary reduction and ferrochrome + ferromanganese in alloying. The burning loss of manganese was 5 - 7%, that of silicon 50 - 55% and of chrome 16 - 18% in this test series. When 50% of silicochromane was added in the furnace and 50% in the ladle, the losses of silicon were decreased to 42% and the total amount of the alloy required for reduction and alloying dropped by 10%. The loss of manganese increased to 15%, while the burning loss of chrome remained unchanged (15%). Similar results were obtained for the 220-ton furnace. The optimum composition for silicochrome was found to be 35 - 38% Mn, 32 - 35% Si and 21 - 23% Cr. The distribution of the main elements in the height of the ladle was more uniform than with reduction according to the conventional methods. The amount of gases also decreased when silicochromane was used. As to nonmetallic inclu-

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LAPITSKIY, V. I.; KONOVALOV, V. S.; KIRSANOV, V. M.; BUGRIYENKO, V. A.;
Prinimali uchastiye: LEGKOSTUP, O. I.; PATLAN', Ye. F.;
LAYKO, B. G.; FRUMKIN, A. P.; GONCHAROV, G. P.

Use of graphite as packing material in the bottom pouring of
killed steel. Izv. vys. ucheb. zav.; Chern. met. 5 no.12:56-60
'62. (MIRA 16:1)

1. Dnepropetrovskiy metallurgicheskiy institut.

(Steel ingots) (Graphite)

LAPITSKIY, V.I., doktor tekhn. nauk; KONOVALOV, V.S., kand. tekhn. nauk; LAYKO, V.G., inzh.; LEGKOSTUP, O.I., inzh.; PATLAN', Ye.F., inzh.

Effect of the technology of making and pouring steel on the formation of internal laps in rolled pipe. Met. i gornorud. prom. no.5:17-18 S-0 '63. (MIRA 16:11)

1. Dnepropetrovskiy metallurgicheskiy institut (for Lapitskiy, Konovalov). 2. Truboprekatnyy zavod im. K. Libknekhta (for Layko, Legkostup, Patlan').

KONOVALOV, V.S.; LAPITSKIY, V.I.; LEGKOSTUP, O.I.; LYSENKO, I.V.;
OKHOTSKIY, V.B.; KHOLYAVKO, Z.I.

The role of nonmetallic inclusions on the formation of internal
laps in pipe. Izv. vys. ucheb. zav.; chern. met. 6 no.10:37-42
'63. (MIRA 16:12)

1. Dnepropetrovskiy metallurgicheskiy institut.

KIRSANOV, V. M.; KONOVALOV, V. S.; KLIPA, V. M.; STUPAR', N. I.

Various methods of heating ingot heads and their effect on
the quality of killed steel. Izv. vys. ucheb. zav.; chern. met.
7 no. 4:56-61 '64. (MIRA 17:5)

1. Dnepropetrovskiy metallurgicheskiy institut.

KONOVALOV, V. S.

Changes in metal temperature during deoxidation and alloying.
Izv. vys. ucheb. zav.; Chern. met 7 no.6:47-51 '64. (MIRA 17:7)

1. Dnepropetrovskiy metallurgicheskiy institut.